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## SYNOPTIC KEYS TO THE LYGÆIDÆ (HEMIPTERA) OF THE UNITED STATES.

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### PART II. RHYPAROCHROMINÆ.

As indicated by Stål the most important character for differentiating this subfamily is the peculiarity of the incisure between the third and fourth ventral abdominal segments which laterally curves forward and does not reach the lateral margin of the abdomen. *Plinthisus* is about the only exception to this among United States genera. The presence of two setæ, set close to each eye, is also characteristic of the group. Stål (Öfv. Vet.-Akad. Förh 1872) first divided this subfamily into six divisions: Myodocharia, Rhyparochromaria, Beosaria, Gonianotaria, Lethæaria, and Drymaria. Two years later (Stål, Enum. Hemipt. Pt. 4, 1874), in constructing a synopsis to include extra-European genera, Stål added Cleradaria, combined Drymaria with Lethæaria and omitted all mention of the Gonianotaria. Accepting Stål's arrangement this subfamily is therefore composed of six main divisions which Mr. Van Duzee has recently termed tribes to bring them more into accord with modern system of nomenclature. In separating certain of his divisions Stål relied principally upon two characters—the position of the two opaque spots of the fourth ventral abdominal segment in reference to each other and the character of the lateral margin of the pronotum. Owing to the difficulty of interpreting these characters exactly in every case or owing to their variability the accuracy of Stål's divisional arrangement has been called in question by several Hemipterists. Distant (Biol. Cent. Amer., p. 212, 1882) recognizes Myodocharia and combines all of the other divisions under Rhyparochromaria, stating that "I have here failed to interpret his [Stål's] meaning sufficiently to prevent confusion." Bergroth (Ann. Soc. Entomol.

Belg., p. 153, 1913) has more recently advocated the union of the Lethæini and Rhyparochromini in the following words: "After examination of many specimens of *Microcoris* and other exotic Myodochinæ I believe, however, that the number and position of the glandular spots have been overrated as a systematic character by Stål. One or other of these spots is sometimes lacking, at least on one side of the body. I therefore unite the Lethæaria with the Rhyparochromaria. . . ."

After a careful study of all the United States genera, in preparation for my revision of this subfamily, I am convinced that, so far at least as our fauna is concerned, Stål's divisional diagnosis will apply in separating the genera off into well defined groups. However my knowledge of palæarctic and exotic genera of Rhyparochrominæ is too limited, at the present time, to permit me to determine how well this scheme applies beyond our limits. Hence without more evidence than we have at the present time I am reluctant to abandon Stål's scheme of divisions.

As it is obviously impossible, in a paper of this character, to enter into explanations, I have found it necessary to publish elsewhere such modifications of or additions to the present scheme, which I have here proposed. It will be noted that although I have adopted Stål's divisions I have modified the wording somewhat, in order to bring out the relative importance or the greater significance of certain characters. Attention must also be called to the fact that the species mentioned in connection with certain genera is not necessarily the type unless so indicated.

#### KEY TO THE TRIBES OF SUBFAMILY RHYPAROCHROMINÆ.

- A. The two basal segments of the rostrum together not at all or scarcely longer than the head, third segment longest of all. Posterior glandular opaque spot of the fourth ventral segment remote from the apical margin. Ocelli very widely separated. . . . . *Cleradini* Stål.
- AA. The two basal segments of the rostrum much longer than the head, the first segment as long or nearly as long as the head. Ocelli not so widely separated.
- B. With the two glandular opaque spots laterally on the fourth ventral segment, widely separated, the posterior one placed closer to the posterior margin than to the anterior spot.

- C. Pronotum with the lateral margins of the anterior lobe obtuse, terete, neither calloused, carinate nor expanded nor longitudinally impressed within the lateral margin of the propleura; most commonly strongly constricted transversely to form two distinct lobes and most commonly provided with a constricted ring-like collar. [If collar is absent then is the head not at all or very lightly exerted (see Div. CC.). Body commonly less depressed, more narrow elongate.] . . . . . *Myodochini* Stål.
- CC. Pronotum with the lateral margins of the anterior lobe not obtuse or terete but either calloused or carinate or expanded or the lateral emargination filled in by a foliaceous expansion or furnished within the lateral margin with a series of punctures or the propleura with a linear impression within the lateral margin. Pronotum rarely strongly constricted transversely, if so then is the lateral margin carinate or expanded or the lateral emargination filled in by a foliaceous expansion, or the propleura impressed within the lateral margin; rarely furnished with a constricted ring-like collar unless the head is strongly exerted or at most only provided with a depressed series of punctures within the anterior margin. Body most commonly broad with the head most commonly, almost or quite immersed to the eyes.
- D. Lateral margins of the pronotum not at all or less entirely laminate-expanded, most commonly either carinate or longitudinally impressed within the lateral margin of the propleura. Pronotum most commonly entirely black, ferruginous or castaneous, with the posterior lobe rarely paler, punctuate with black. [Head rarely strongly exerted, if so, then is the constricted collar present anteriorly on the pronotum (*Ozophora*). Hind tibia most commonly without rigid bristles only, most frequently pilose.] . . . . . *Rhyparochromini* Stål.
- DD. Entire lateral margin of the pronotum and costa [more or less] laminate-expanded (in U. S. genera) and most commonly in part pale; this margin rarely only keeled (in certain exotic genera), in which case the first segment of the antenna is extended far beyond the apex of the head

and the genital segment of the male is tuberculate; pronotum (including margin) most rarely entirely black, posterior lobe most commonly pale or variegated with pale. Posterior tibia furnished with long rigid subspini-form setæ [bristles].

E. Antennæ nude or with shorter pubescence, first segment sometimes furnished with a few shorter setæ. Lateral [more narrowly] expanded margin of the pronotum not at all or rarely sparingly punctate; anterior disk of the pronotum most commonly smooth or sparingly punctate, rarely densely punctate. . . . . *Beosini* Stål.

EE. Three basal segments of the antennæ provided with rigid setose bristles. Lateral [more widely] expanded margin of the pronotum and corium commonly [profusely] punctate. Clavus irregularly punctate. Dorsal parts commonly pale [and profusely punctate]

*Gonianotini* Stål.

BB. The posterior glandular, opaque spot of the fourth ventral segment of the abdomen placed closer to anterior spot, most remote from the posterior margin of the segment, sometimes furnished with a third, posteriorly placed, spot. [With lateral margin of pronotum most commonly expanded, this frequently foliaceous between the lobes.] . . . *Lethæini* Stål.

#### TRIBE MYODOCHINI Stål.

A. Head very much exserted, drawn out into a long cylindrical neck at base; longer than pronotum. Two lobes of pronotum subequal. Body narrow elongate. Hind tibia furnished with long, setose hairs. Basal segment of hind tarsus about three times as long as second and third together. Macropterous forms only. . . . . *Myodochus* Oliv.

AA. Head either exserted or not, but never drawn out into a long cylindrical neck. Collar more rarely absent (see Div. CC.).

B. Pronotum commonly constricted at middle or a little behind middle; anterior lobe in all macropterous forms and in most brachypterous forms never or scarcely ever more than twice as long as posterior lobe, if more than doubly longer then the head is not exserted (as in brachypterous forms of some *Ptochiomera*).

- C. Head more or less distinctly exserted. Pronotum with a constricted ring-like collar. Body more or less elongate.
- D. Head strongly exserted, forming a short neck at base; the postocular space about four times as long as the space between the antenna and eye. The eyes placed about midway on the head. Hind tibia provided with fine rigid bristles. Basal segment of posterior tarsus about as long as second and third together. Macropterous and brachypterous forms. . . . . *Heræus* Stål.
- DD. Head much less exserted, commonly strongly contracted back of eyes; postocular space commonly subequal to or sometimes shorter than space between base of antenna and eye.
- E. Anterior lobe of pronotum, especially in brachypterous forms, globose, almost the diameter and about twice the length of posterior lobe. Postocular space subequal to space between antenna and eye. Scutellum much longer than wide. Head and pronotum shining. Hind tibia with rigid bristles. Posterior tarsus with first segment nearly three times as long as second and third together. Macropterous and brachypterous forms.  
*Spherobius* Uhl.
- EE. Anterior lobe of pronotum not so evidently globose and narrower than posterior lobe. Head and thorax seldom shining. Basal segment of posterior tarsus most commonly not more than twice as long as second and third together, if three times as long as second and third then the posterior tibia is provided with long rigid bristles.
- F. Preocular space to base of antenna about three times as long as postocular space; head not strongly contracted back of eyes; apex of tylus not extended to middle of basal segment of antenna; this segment incrassate and elongate, a little longer than basal segment of rostrum; second segment very elongate, over twice as long as the third or fourth, longer than third and fourth together. Pronotum with anterior lobe twice as long as posterior. Collar set off by a depressed series of punctures. The anterior femora armed with two rows of spines, the outer series confined to the subapex.

The posterior tibia provided with a few scattered setose hairs similar to those of antennæ. Hind tarsus with basal segment about twice as long as second and third together. Only macropterous females known to me (Type—*Pseudopamera forreri* Dist.).

*Cænopamera* Barb.

- FF. Preocular space to base of antenna not more than twice the length of the postocular space, most commonly subequal to it. Head strongly contracted back of eyes; apex extending to or beyond the middle of basal segment of antennæ which is very evidently shorter than first segment of rostrum, second segment much shorter than third and fourth together. Pronotum with the collar most commonly set off by an impressed line.
- G. The two lobes of the pronotum commonly separated by a deep, clean cut, transverse constriction. First segment of rostrum commonly not reaching base of head. Postocular space of head commonly subequal to or sometimes a little shorter than space between antenna and eye. Hind tibia most commonly furnished with short bristles.
- H. Second and third ventral abdominal segments furnished with two very finely strigose, opaque, lunate vittæ. . . . . *Ligyrocoris* Stål.
- HH. Second and third ventral abdominal segments unprovided with lunate, strigose vittæ. (To include subgenus *Paromius longulus* Dall.) . . . . *Orthæa* Dall.
- GG. The two lobes of the pronotum commonly separated by a shallow obtuse constriction. First segment of rostrum commonly reaching base of head.
- I. Posterior tarsus with basal segment fully three times as long as second and third together. Hind tibia provided with long rigid bristles only. Antennæ nearly nude. Form of body narrow elongate, with longer legs. Scutellum carinate throughout. (Type—*Perigenes costalis* Van Duz.)

*Zeridoneus* Barb.

- II. Posterior tarsus with basal segment not more than twice as long as second and third together. Hind tibia with long setose hairs similar to those of antennæ and provided with a few rigid bristles apically. Form of body more broadly oval with shorter legs.....*Perigenes* Dist.
- CC. Head not at all or scarcely exerted, commonly immersed to the eyes. Pronotum without a constricted ring-like collar, at most with anterior margin depressed or furnished with a series of punctures. Clavus with three rows of punctures.
- J. Scutellum much longer than wide and posteriorly distinctly carinate. Pronotum strongly constricted to form two lobes, both of which are punctate; the disk of the anterior lobe sometimes more sparsely so. Posterior tarsus with the basal segment subequal to the second and third together. Species rarely pilose.
- K. First segment of antenna longer, exceeding apex of tylus by one-half its length. Within anterior margin of pronotum depressed, punctate. Basal disk of scutellum depressed before a premedian transverse or crescentic ridge, posteriorly to which, carinate. Fore femora armed with several teeth. Males sometimes with fore tibia armed with a median tooth. In brachypterous forms the membrane may be almost or entirely wanting, the clavus flat, not deflected to the corium and the anterior lobe of the pronotum swollen and more than twice the length of the posterior. Species not at all or only slightly shining. (To include *Carpilis ferruginea* Stål. and *Sisamnes contractus* Dist.).....*Ptochiomera* Say.
- KK. First segment of antennæ short scarcely exceeding the tylus. Anterior margin of pronotum not depressed. Basal disk of scutellum depressed followed by a longitudinal carina. Incrassate fore femora armed with two or three preapical teeth one of which is frequently enlarged. In

brachypterous forms the membrane is only shortened, the clavus always deflected to the corium.

Species very shining. (Type—*Rhyparohrcmus plenus* Dist.).....*Kolenetrus* Barb.

JJ. Scutellum subequilateral, posteriorly not distinctly carinate. Pronotum either not pilose and finely punctate in front, in which case it is not strongly constricted to form two lobes or the pronotum very pilose and obsoletely punctate in front and then strongly and obtusely constricted to form two lobes. Posterior tarsus with basal segment decidedly longer than second and third together. Species not at all or faintly shining.

L. Antennæ and dorsal parts very pilose. Pronotum longer than wide, strongly contracted back of the middle to form two lobes; the anterior lobe obsoletely and sparsely punctate. First segment of antenna longer exceeding apex of tylus by nearly one-half its length. Costal margin of corium gently convexed. Forefemora provided with two or three minute preapical teeth and long setæ throughout. Clavus distinct and deflected to the corium. Membrane reaching the end of abdomen. Only macropterous forms known to me. (Type—*Valonetus pilosus* Barb.).....*Valonetus* Barb.

LL. Antennæ and dorsal parts not at all or very sparsely pilose. Pronotum lightly transverse or quadrate, finely and distinctly punctate, anterior *disk* sometimes impunctate, not strongly constricted to form two lobes. First segment of antenna short barely exceeding tylus. Fore femora armed with two or three minute teeth in the middle, tipped with long setæ. In brachypterous forms clavus connate with the corium, the membrane wanting and pronotum more quadrate. (*Esuris tergina* Stål and *castanea* Barb.).....*Esuris* Stål.



BB. Anterior lobe of pronotum three or four times as long as posterior lobe, with the transverse constriction between the lobes commonly shallow and obtuse or ill-defined. Head distinctly exserted; postocular space subequal to space between antenna and eye; most commonly not abruptly contracted back of eyes. Fore tibia of males provided with a submedian tooth. Antenna elongate; apex of head not attaining middle of basal segment; this segment subequal to basal segment of rostrum. Basal segment of posterior tarsus two or three times as long as second and third segments together. Membrane not entirely wanting in brachypterous forms.

M. Anterior lobe of pronotum impunctate, demarcated from the posterior lobe by a transverse, impressed line; provided with a distinct ring-like collar. Basal segment of antenna with a few setose bristles. Ocelli absent. Fore tibial tooth of male at middle or posterior to the middle. Hind tibia provided inwardly and outwardly with rigid bristles. Basal segment of hind tarsus three times as long as second and third together. Larger species.

*Cnemodus* H. S.

MM. Anterior lobe of pronotum sparsely punctate, the two lobes separated by an obtuse sinus, not indicated by an impressed line; anterior margin depressed, punctate. Basal segment of antenna without setose bristles. Ocelli present. Fore tibial tooth of male anterior to middle. Hind tibia with a few setose bristles inwardly. Basal segment of posterior tarsus about twice the length of second and third together. Smaller species. (Type—*P. canadensis* Prov.) . . . . . *Pseudocnemodus* Barb.

#### TRIBE RHYPAROCHROMINI.

A. Anterior margin of the pronotum provided with a distinct ring-like collar, behind which is a depressed series of punctures; lateral margins strongly keeled or lightly expanded

and reflexed; distinctly separated into two lobes by an obtuse constriction just before middle. Head not transverse, exserted, commonly contracted back of eyes, space between antenna and eye most commonly subequal to postocular space. Basal segment of antenna stout and long, apex of tylus not reaching middle of segment. Basal segment of rostrum reaching base of head, longer than basal segment of antenna. Clavus irregularly punctate. Anterior femora elongate, not strongly incrassate, armed beneath with three or four equidistant spines. Posterior tibia with short rigid bristles. Mostly macropterous forms. (To include genus *Balboa* Dist.).....*Ozophora* Uhl.

AA. Anterior margin of pronotum without a ring-like collar, at most faintly impressed or provided with a series of punctures within. Head transverse, not at all or very lightly exserted. Lateral margins of pronotum sometimes carinate but most commonly merely longitudinally impressed within the lateral margin of the propleura. Hind tibia without rigid bristles.

B. Pronotum with the lateral margins strongly carinate and reflexed; lightly transversely impressed just behind middle, both lobes punctate; posterior margin straight. Head short, wide, slightly exserted, suddenly and strongly contracted back of eyes. First segment of rostrum shorter than head, subequal to first segment of antenna. Scutellum subequilateral, equal to length of commissure. Swollen anterior femora provided with numerous small teeth. Anterior tibia strongly curved. Posterior tibia nude. Only macropterous forms known to me.....*Tempyra* Stål.

BB. Lateral margins of pronotum very lightly keeled and not reflexed or acute or only linearly impressed within the lateral margins of the propleura. Head not at all or most lightly exserted.

C. Pronotum distinctly transverse with disk of anterior lobe black; posterior lobe testaceous punctate with fuscous; lateral margin lightly carinate. Scutellum much longer than wide, a little longer than pronotum, posteriorly bivittate with pale. Dorsal parts dull, not pilose. Fore femora incrassate and armed with three or four stronger

and several smaller teeth distributed along almost entire length. Clavus with three rows of punctures, the middle series abbreviated. Macropterous forms only.

*Peritrechus* Fieb.

CC. Pronotum with both lobes concolorous or nearly so, most commonly ferrugineous or castaneous, rarely black, most commonly shining or somewhat so. Scutellum not bivitiate with pale.

D. Third ventral suture of the abdomen straight and reaching the lateral margin. Head across eyes distinctly narrower than anterior margin of pronotum. Pronotum with lateral margins more or less strongly keeled, with impunctate anterior lobe as wide or wider than the much shorter posterior lobe. Scutellum subtransverse. Clavus broad, not deflected to the corium, sometimes connate with the corium. Membrane usually abbreviated or wanting. Only brachypterous forms known to me.

*Plinthisus* Latr.

DD. Third ventral suture of the abdomen curved anteriorly and not reaching the lateral margin. Head across eyes as wide or most commonly wider than the anterior margin of the pronotum, most frequently as wide as across rounded submargin.

E. Pronotum with both lobes very distinctly and closely punctate and at the same time with the lateral margins evidently carinate. Scutellum longer than wide. Fore femora unarmed.

F. Lateral margins of pronotum more strongly carinate. Eyes more projecting. Pronotum and hemielytra not pilose. Clavus with three rows of punctures.

*Acompus* Fieb.

FF. Lateral margins of pronotum narrowly carinate. Eyes less projecting. Pronotum and hemielytra pilose. Clavus with four series of punctures.

*Stygnocoris* D. and S.

EE. Pronotum with the entire anterior lobe or the disk only impunctate; lateral edge either very finely carinate or the propleura linearly and longitudinally impressed within the lateral margin. Scutellum equilateral.

Fore femora lightly incrassate, armed or unarmed.  
Very small species.

- G. Scarcely shining. Form short and broad. Pronotum not strongly, transversely constricted to form two lobes; anterior disk impunctate; lateral edge very narrowly carinate. Basal segment of rostrum (in U. S. species) shorter than first segment of antenna.

*Antillocoris* Kirk.

- GG. Somewhat shining. Pronotum rather strongly transversely constricted; the anterior lobe impunctate; the lateral edge linearly impressed within the lateral margin of the propleura. Basal segment of rostrum subequal to the basal segment of antenna. Inner apical margin of corium sinuate. ("*Salacia*" *delineata* Dist.).....*Cligenes* Dist.

#### TRIBE BEOSINI.

- A. Lateral margin of the pronotum linearly and evenly expanded, not reflexed; expansion not widened between the two lobes which are not distinctly differentiated by a transverse constriction; pronotum transverse without a depressed collar. Head about as wide across the eyes as the diameter of anterior submargin of pronotum. Antenniferous tubercles, seen from the side, strongly oblique, almost perpendicular. Scutellum not carinate. Antennæ not incrassate; basal segment short, apical third extended beyond apex of head.
- B. Dorsal parts not entirely black, either the lateral explanate margin of the pronotum, or commonly the posterior lobe of the pronotum pale, punctate with black, or the posterior margin of the pronotum conspicuously or the corium more or less pale. Species commonly dull not shining. Anterior margin of the pronotum nearly straight.
- C. Explanate lateral margin of pronotum most commonly pale, neither punctate nor furnished with setæ. Scutellum rarely bivittate with pale. Antennæ sparsely pilose or almost nude. First segment of posterior tarsus distinctly longer but not twice as long as second and third segments together.

- D. The posterior lobe of the pronotum and corium pale, distinctly and rather coarsely punctate with black; the lateral explanate margins pale; pronotum narrowed in front, the lateral margins gently rounded anteriorly. Antennæ pilose. Anterior tibia, especially in the male, curved at base. . . . . *Trapezonotus* Fieb.
- DD. The posterior lobe of the pronotum concolorous with the anterior lobe, not at all or obsoletely and finely punctate, black or at most with the posterior margin only pale. Corium for the most part pale, more or less infuscated. Lateral explanate margins of the pronotum most commonly pale, rarely black; pronotum less narrowed in front, the lateral margins more nearly parallel. Antennæ nearly nude. Anterior tibia nearly straight. (Type—*Trapezonotus rufipes* Stål and *Rhyparochromus sodalicus* Uhl. etc.) . . . . . *Malezonotus* Barb.
- CC. Explanate pale lateral margins of the pronotum, provided with a few punctures set with long setæ. Scutellum most commonly bivittate with pale. Antennæ provided with numerous setose hairs. First segment of posterior tarsus commonly subequal to the second and third together. . . . . *Sphragisticus* Stål.
- BB. Entirely black, or the legs rarely pale. Subshining. Pronotum very transverse, not depressed posteriorly; anterior margin lightly concave. Third segment of the rostrum shorter than the second. Anterior femora armed with one large preapical spine, preceded and followed by one or two smaller spines. Clavus with four series of punctures, the two middle series abbreviated and confused. Posterior tarsus with basal segment subequal to second and third together. Macropterous forms only known to me. (*Aphanus umbrosus* Dist.) . . . . . *Aphanus* Lap.
- AA. Lateral margins of the pronotum more lamellarly expanded and plainly reflexed, the expansion widened between the two lobes which are very obviously separated by a transverse constriction; posterior lobe depressed and profusely punctate; anterior margin straight, within, provided with a depressed series of punctures. Head scarcely transverse; antenniferous tubercles, seen from the side, obliquely declivous. Anten-

næ incrassate; basal segment longer. Second segment of rostrum longer than third. Scutellum posteriorly, obtusely carinate. Posterior tarsus with basal segment almost twice as long as second and third together. Macropterous and brachypterous forms.....*Uhleriola* Horv.

#### TRIBE GONIANOTINI Stål.

Lateral margins of pronotum widely laminate, wider than the diameter of the eye, not reflexed, pale and rather profusely punctate with fuscous. Pronotum very transverse, anterior margin gently arcuated, the anterior rounded angles projecting a little beyond eyes. Costal margin of the corium widely laminate, lightly reflexed and punctate with fuscous. Scutellum almost as long as the pronotum. Clavus irregularly punctate. Head transverse. Antennæ set close to the eyes. Space between antennæ and eyes about one-half the length of the eye. Posterior tibia furnished with setose bristles. Basal segment of posterior tarsus fully twice as long as second and third together. Only macropterous forms.

*Emblethis* Fieb.

#### TRIBE LETHÆINI Stål.

A. Pronotum with both lobes distinctly and closely punctate, the posterior lobe more coarsely so; lateral margins lightly expanded, more widely so between the lobes, slightly sinuate and commonly in part pale; anterior margin without a semblance of a collar, but area behind this somewhat depressed and profusely punctate. Costal margins of corium anteriorly widely expanded, and broadly reflexed. Eyes not in contact with anterior margin of pronotum. Basal segment of antenna shorter than head but well extended beyond its apex. Anterior tibia of males either strongly curved or bent and strongly expanded apically within and armed with one or two stout preapical teeth. Hind tibia without rigid bristles. Fourth abdominal ventral segment having the two anterior glandular, opaque spots without a third subapical spot.

B. Body not strongly depressed or flattened. Lateral margins of pronotum not strongly converging anteriorly, anterior angles strongly and rather abruptly rounded. Width of head across eyes much narrower than across rounded sub-

margin of pronotum. Lamellar lateral expansion very distinct on both lobes. Antennæ rather strongly pilose. Mesosternum not longitudinally sulcate. Basal segment of posterior tarsus distinctly longer than second and third segments together. Third ventral suture of abdomen strongly curved anteriorly and not reaching lateral margin.

*Drymus* Fieb.

- BB. Body much flattened. Lateral margins of pronotum strongly converging anteriorly, anterior angles gently rounded. Width of head across eyes subequal to width across rounded submargin of pronotum. Lamellar lateral expansion less obvious on the anterior lobe. Antennæ not pilose. Mesosternum strongly sulcate. Basal segment of posterior tarsus subequal to second and third segments together. Third ventral suture of abdomen almost straight and reaching the lateral margin. *Gastrodes* Westw.
- AA. Pronotum with the anterior lobe impunctate or obscurely punctate. Anterior tibia of males not so strongly curved or bent or abruptly expanded at apex. Fourth ventral abdominal segment with or without the third subapical glandular opaque spot.
- C. Dorsal parts dull. Anterior margin of pronotum depressed and commonly pale, limited behind by a row of punctures; lateral lamellar expansion noticeably wider between the two lobes, for the most part commonly pale. Fourth ventral abdominal segment without the third subapical spot. Hind tibia without long rigid bristles; at most with a few short setose bristles or pilose.
- D. Pronotum much longer than wide; anterior lobe subquadrate and disk obsoletely punctate. Antennæ very long, slender and nude; first segment as long as a little longer than the head, longer than first segment of r. strum, apex of head not reaching middle point; third segment longer than fourth. Head submerged to the eyes; head across eyes as wide as anterior margin of pronotum. Lateral margins of pronotum and corium widely lamellarly expanded and broadly reflexed. Corium dorsally flattened not transversely convex. Scutellum longer than wide. Clavus distinctly widened posteriorly, rather closely and

irregularly punctate. Commissure nearly as long as scutellum. Bucculae lightly elevated and extended posteriorly to meet on the middle line of eyes. Much swollen anterior femur armed with a single large subapical tooth between which and the apex are several small teeth. Posterior tibia furnished with a few fine short bristles, not at all pilose. Posterior tarsus with the basal segment twice as long as the second and third segments together. (Type—*T. genuinus* Barb.) . . . . . *Togodclentus* Barb.

DD. Anterior lobe of pronotum transverse, impunctate and most commonly black. Antennae shorter; first segment shorter than head, subequal to or shorter than the first segment of rostrum, well extended beyond apex of head. Head most commonly lightly exerted. Lateral margins of pronotum and corium more narrowly expanded. Commissure distinctly shorter than scutellum. Clavus punctate in more regular series. Basal segment of posterior tarsus never twice as long as second and third segments together.

E. Species larger, most commonly 6 to 7 mm. long. First segment of antenna longer; apex of tylus not reaching middle of first segment. Head longer than width back of eyes. Lateral margin of pronotum commonly more or less pilose. Hind tibia with short fine bristles or pilose. . . . . *Eremocoris* Fieb.

EE. Species smaller, commonly 3 to 4 mm. long. First segment of antenna shorter; apex of tylus reaching at least to the middle of this segment. Head shorter, length subequal to width back of eyes. Lateral margins of pronotum without long soft hairs. Hind tibia not pilose or furnished with short bristles.

*Scolopostethus* Fieb.

CC. Dorsal parts shining or somewhat shining. Lateral edge of the pronotum not obviously widened between the two lobes and most commonly not pale; each anterior angle of the pronotum provided with a long seta. Fourth ventral abdominal segment commonly furnished with an additional third subapical opaque spot. Scutellum longer than wide. Hind tibia furnished with rigid bristles.



F. The lateral edge of the pronotum concolorous, not definitely demarked or bordered by an impressed line, much compressed or acute and beneath strongly impressed within the lateral margin of the propleura; the lateral margins nearly straight and converging anteriorly; anterior and posterior margins straight. Width of head across eyes a little narrower than across anterior submargin of the pronotum. Basal segment of rostrum nearly equal to basal segment of antenna. Dorsal parts pilose.

G. Fore femora provided with a few tubercles and numerous long setæ. Antennæ somewhat incrassate. Basal segment of posterior tarsus nearly twice as long as second and third together. Hind tibia with strong bristles. Surface not strongly shining.

*Cistalia* Stål.

GG. Fore femoræ provided with several minute preapical teeth with or without setæ. Antennæ not incrassate and pilose. Basal segment of posterior tarsus a little longer than second and third segments together, but never twice as long. Hind tibia with short fine bristles.

H. Pronotum very transverse, nearly twice as wide as long, posterior lobe sparsely punctate. Clavus deflected to corium and provided with three regular rows of punctures. Corium finely punctate. Antennæ set close to the eyes, antenniferous tubercles less than one-half the length of the eyes. Membrane reaching apex of abdomen. Only macropterous forms known to me. (Type—*Petissius diversus* Dist.) . . . . . *Valtissius* Barb.

HH. Pronotum more lightly transverse, almost impunctate except behind anterior margin. Clavus almost flat, with four series of punctures. Corium sparsely punctate. Antennæ further removed from the eyes, antenniferous tubercles only a little shorter than the eyes. Membrane abbreviated. Dorsal parts very shining. Only brachypterous forms known to me. (Genus *Rhaptus* Stål?) . . . . . *Xestocoris* Van D.

FF. Narrow lateral expansion of the pronotum sharply demarked and most commonly pale; not widened between the two lobes which are poorly differentiated from each other, merely posteriorly lightly depressed and sparsely punctate; pronotum transverse, the two sides subparallel. Head submerged to eyes; width of head across eyes much narrower than across anterior submargin of pronotum where the angles are rather abruptly rounded. Antennæ more slender. Posterior tibia with long rigid bristles. Basal segment of posterior tarsus a little longer than second and third together. Fore femora with several small subapical tubercles. Brachypterous and macropterous forms. (To include *Trapezus* Dist.) . . . . . *Cryphula* Stål.

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ANOTHER *TOXOPTERA* FEEDING ON SEDGE (HOMOPTERA; APHIDIDÆ).

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During the summer of 1916, there appeared on the sedges in a little marsh at East Falls Church, some dark colored apterous aphids. These were kept under observation and some were transferred to rearing cages. From these, sexes and eggs were obtained in the fall. None of the eggs, however, hatched the following spring. Visits to the marsh were made too late to secure a supply of stem mothers. Apterous forms were secured in the second generation and from these alate forms were secured. In the key given by Davis<sup>1</sup> this species would fall under *aurantii* from its color and would be excluded from *scirpi* by the nature of the hairs present in that species. It is therefore recorded under a new name.

*Toxoptera nigra* sp. nov.

*Alate vivipara.*

The alate forms began to appear in the rearing cages in the third generation. It is quite possible, however, that lines from a sufficient number of stem mothers would show alate forms produced in

<sup>1</sup> Tech. Ser. No. 25, Pt. I, p. 8, U. S. D. A. Bur. Ent.